-continued

```
Asn Leu Ser Val Ser Val Gly
1               5


(2) INFORMATION FOR SEQ ID NO: 122:

     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 6 amino acids
          (B) TYPE: amino acid
          (C) STRANDEDNESS: not relevant
          (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

   (iii) HYPOTHETICAL: NO

    (iv) ANTI-SENSE: NO

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

Arg Gly Asp Asn Leu Ser
1               5


(2) INFORMATION FOR SEQ ID NO: 123:

     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 14 amino acids
          (B) TYPE: amino acid
          (C) STRANDEDNESS: not relevant
          (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

   (iii) HYPOTHETICAL: NO

    (iv) ANTI-SENSE: NO

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

Cys Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly
1               5                   10
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We claim:

1. A purified peptide, wherein the peptide is Sp-NLSNLS.

2. A composition for transfecting a cell, the composition comprising one or more nucleic acid molecules, one or more peptides and one or more transfection agents, wherein each peptide in the composition comprises Sp-NLSNLS.

3. The composition of claim **2**, wherein the composition comprises two or more transfection agents.

4. The composition of claim **2**, wherein the transfection agent comprises one or more cationic lipids.

5. The composition of claim **4**, wherein the transfection agent further comprises one or more neutral lipids.

6. The composition of claim **4**, wherein the one or more cationic lipids comprise one or more monovalent cationic lipids.

7. The composition of claim **6**, wherein the one or more monovalent cationic lipids are selected from the group consisting of N-[1-(2,3-dioleoyloxy)-propyl]-N,N,N-trimethyl ammonium chloride (DOTMA), 1,2-bis(oleoyloxy)-3-3-(trimethylammonium)propane (DOTAP), 1,2-dimyristyloxypropyl-3-dimethyl-hydroxy ethyl ammonium bromide (DMRIE), and dimethyl dioctadecyl ammonium bromide (DDAB).

8. The composition of claim **4**, wherein the one or more cationic lipids comprise one or more polyvalent cationic lipids.

9. The composition of claim **8**, wherein the one or more polyvalent cationic lipids are selected from the group consisting of 2,3-dioleyloxy-N-[2-(sperminecarboxamido)ethyl]-N,N-dimethyl-1-propanaminium trifluoro-acetate (DOSPA), 1,3-dioleoyloxy-2-(6-carboxy spermyl)-propylamide (DOSPER), 5-carboxyspermylglycine dioctadecyl-amide (DOGS), tetramethyltetrapalmitoyl spermine (TMTPS), tetramethyltetraoleyl spermine (TMTOS), tetramethlytetralauryl spermine (TMTLS), tetramethyltetramyristyl spermine (TMTMS), and tetramethyldioleyl spermine (TMDOS).

10. The composition of claim **5**, wherein the one or more neutral lipids are selected from the group consisting of dioleoylphosphatidylethanolamine (DOPE), diphytanoylphosphatidylethanolamine (DPhPE), and cholesterol.

11. The composition of claim **2**, further comprising DEAE-dextran, chloroquine or combinations thereof.

12. The composition of claim **2**, wherein the composition can transfect a primary cell culture, a passaged cell culture or a cell line.

13. The composition of claim **12**, wherein the cell line is a human cell line.

14. The composition of claim **12**, wherein the cell line is an animal cell line.

15. The composition of claim **12**, wherein the cell line is a fibroblast.

16. The composition of claim **2**, wherein the one or more nucleic acid molecules is one or more DNA molecules or fragments thereof.

17. The composition of claim **2**, wherein the one or more nucleic acid molecules is one or more RNA molecules or fragments thereof.